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FOUR NEW ALOES FROM KENYA COLONY

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(With Plates I—VII.)

With the passing of Mr. H. Basil Christian, who contributed so much to the advancement of knowledge of the Aloes of Tropical Africa, and with the Aloes of South Africa having been monographed, it is now my hopeful ambition to investigate and eventually to monograph, the Aloes of Tropical Africa.

The descriptions of most of the earliest described species of Aloe from East Africa are incomplete, vague, and sometimes misleading, while there are no figures of most of them. Some type material in Berlin was, unfortunately, destroyed during the war, while such type material as does exist today, is mostly incomplete, fragmentary, and more exasperating than helpful. In some cases, leaves and habit of growth were unknown.

It soon became clear, that nothing less than a personal visit to the actual type localities, would ever enable me to solve the problem of the identity of most of these early Aloes—or at least to attempt it.

Consequently, at the invitation of Mr. P. R. O. Bally, Botanist at the Coryndon Museum, Nairobi, I flew to Nairobi in March 1952, and together we travelled 4,300 miles in six weeks, visiting all the Aloe type localities in Northern Tanganyika, i.e. Kilimanjaro, the Northern and Southern Pare Mountains, the Western and Eastern Usambara Mountains, and several in Kenya and Uganda.

In Kenya we travelled from Mombasa to Witu beyond the Tana River, returned to Nairobi, then went through the Rift Valley to Nakuru, Thomson's Falls, Nanyuki and beyond Isiolo, thence westwards via Tororo and Jinja to Entebbe in Uganda, where *A. dawei* Berger, the last of the early species needed to complete the investigations, was found.

These journeys were highly successful, and all but two of the earliest described Aloes in the area covered, can now be identified with reasonable certainty, while several new species of Aloe were found. Many photographs were taken, much herbarium material gathered, and copious field notes written up, almost all of which have been sent to the National Herbarium, Pretoria, and the Royal Botanic Gardens, Kew.

I am grateful to Mr. Bally for his invaluable help, to Dr. L. S. B. Leakey, Curator of the Coryndon Museum, Nairobi, and to Mr. P. J. Greenway, O.B.E., for much assistance.

Papers establishing the identity of some of the earliest described Aloes are being prepared for publication, while several new species await description, of which four are described hereunder.

Aloe ballyi Reynolds. *Spec. nov.* Nulli alii arcte affinis; forsitan sectionem propriam constituere debet.

Planta succulenta; truncus simplex, glaber, gracilis, aetate 6—8 met. altus, 10—15 cm. crass. *Folia* ca. 25, dense rosulata, usque ad 90cm. longa, basi 14cm. lata, longe-attenuata, profunde canaliculata; griseo-viridula, glabra, immaculata, dentibus marginibus albidis 4—5mm. longis, 10—15mm. distantibus armata. *Inflorescentia* multi-ramosa, ca. 60cm. longa et lata. *Racemi* ca. 14cm. longi, subsecundi, sublaxe ca. 20-floribus. *Bractae* ovato-acutae, 5mm. longae, 5mm. latae, scariosae, sordide-albidae, ca. 5-nervatae. *Pedicelli* 10mm. longi. *Perigonium* carminatum, cylindricum, 33mm. longum, basi 9mm. diam.; segmenta exteriora per 22mm. libera. *Antherae* 4—5mm. exsertae. *Stigma* demum 5mm. exsertae. *Ovarium* 6mm. longum, 4mm. diam. [Plates I, II.]

Hab. Kenya Colony: In dense bush $2\frac{1}{2}$ miles west of Mwatate, 20 miles West of Voi (approx. $3^{\circ}30'S$ $38^{\circ}23'E$), alt. 3,000 ft., fl. 31 March 1952, Reynolds 6378! (type) in Nat. Herb. Pretoria, with type number in Herb. Kew, and Cor. Mus. Herb. Nairobi.

Tanganyika Territory: S. Pare Mtns., Mamba Track, 17 June 1942, Greenway 6470! in E.A. Herb. Nairobi, and Nat. Herb. Pretoria; S. Pare Mtns., Kisiwani, 2 Feb. 1936, P. J. Greenway 4573! in Cor. Mus. Herb. Nairobi, "whole plant smells strongly of mice".

Our new species is named after Mr. P. R. O. Bally, Botanist, Coryndon Museum, Nairobi, who first found plants near Makania on the western side of the S. Pare Mtns. in September 1934, and again in December of that year near the top of the Manyara Escarpment beyond Lake Manyara and Mtuwambu on the road westwards from Arusha via Makuyuni to Ngorongoro Crater, in Tanganyika Territory. He has also

photographed plants on the Nguruman Escarpment near Oldonyo Sambu, north of Mount Meru, in Tanganyika Territory. The writer found it near Kisiwani, at the northern end of the S. Pare Mtns. in dense bush and in almost impenetrable thickets of *Sansevieria* and *Euphorbia*, growing socially with *A. deserti* Berger, Kisiwani being the type locality of the latter. Mr. P. J. Greenway records that *A. ballyi* is "locally common all down the eastern side of the S. Pare Mtns. on the foot slopes between 4,000—5,000 ft."

A. ballyi is a very distinctive species with a tall, slender, simple stem reaching 20 feet and more in height. The leaves are deeply channelled and recurved, while old dried leaves fall, giving the stem a clean smooth appearance. The leaves and sap give off a permeating, very decided odour of rats or mice, on which account this species has for some time been known as the "Rat Aloe".

The inflorescence is produced sub-obliquely, with the reddish-orange flowers more or less secund, depending on the angle of the raceme; the more horizontal the raceme, the more secund the flowers.

On Mr. H. A. Delap's Estate "Kayata", about 50 miles east of Nairobi, and east of Donyo Sabuk in dense bush near the Athi River, the writer noticed many tall simple-stemmed plants, and also several which branched from the base and formed large shrubs; but this is a form not typical of the species as a whole.

The flowering period appears to be from December to June, depending on the rains, and the locality.

Description: Stem slender, simple, 5—8 met. high, 10—15cm. thick, glabrous, the old leaves not persistent.

Leaves about 25, densely rosulate at apex of stem, lanceolate-long attenuate, up to 90cm. long, 14cm. broad at base, the youngest leaves spreading, the oldest much recurved, deeply canaliculate, and "U" shaped in cross-section; *both surfaces* grey-green, glabrous throughout, without spots or lineation; *margins* armed with laterally compressed deltoid, pungent, white teeth averaging 4—5mm. long, 10—15mm. distant, more crowded nearer base of leaf, more distant upwards, the teeth sometimes forward-uncinate, the interspaces straight.

Inflorescence a much branched panicle, about 60cm. long and broad, produced sub-obliquely.

Peduncle biconvex and 20mm. diam. at base, terete upwards, with about 20 branches from low down, the lowest re-branched, and subtended at base by a thin, dry, white bract about 18mm. broad, 14mm. long, about 7-nerved, the branches mostly spreading with the racemes oblique.

Racemes up to 14cm. long, rather laxly about 20-flowered, the buds dull scarlet, tipped bluish-green, with a slight bloom, the open flowers carmine to reddish-orange, the pedicels upturned with the buds and flowers mostly subsecund to secund, depending on the degree of obliquity of the racemes.

Bracts clasping the pedicels, ovate-acute, 5mm. long, 5mm. broad at base, thin, scarious, dirty white, about 5-nerved.

Pedicels lowest 10mm. long, mostly up-curved.

Perianth carmine to reddish-orange, greyish-tipped, 33mm. long, cylindric, 9mm. diam. near base, exceedingly slightly constricted on under-side above the ovary, very slightly curved, the mouth wide open; *outer segments* free for two-thirds their length (tube 11mm.), distinctly 3-nerved from base to apex, the nerves dull pale reddish, the apices subacute, slightly spreading; *inner segments* themselves free but dorsally adnate to the outer for one-third their length, broader than the outer, with their brownish-tipped apices more obtuse and more spreading than the outer, and with a prominent median nerve throughout.

Filaments pale lemon, filiform-flattened, the 3 inner narrower and lengthening in advance of the 3 outer, with their *anthers* in turn exserted 4—5mm.

Style pale yellow, filiform, with the *stigma* at length exserted 5mm.

Ovary pale green, 6mm. long, 4mm. diam., finely 6-grooved.

Capsule for some time enwrapped with the dried remains of the perianth; mature fruits and seeds not seen.

***Aloe kedongensis* Reynolds.** *Spec. nov.* in Sect. *EUALOE*, subsect. *Prolongatae*.

Planta succulenta, fruticosa. *Caules* graciles usque ad 4 met. longi, 4cm. crass. *Folia* ex vaginis striatulis lineari-lanceolata, sensim attenuata, 30cm. longa et 3.5cm. lata, patula vel recurvula, immaculata, canaliculata, dentibus marginibus 2—3mm. longis, 10mm. distantibus armata. *Inflorescentia* 50cm. alta, 2—4-ramosa. *Racemi* 10—12cm. longi, ca. 8cm. lati. *Bracteae* ovato-acutae, 5mm. longae et latae, 3-nervatae. *Pedicelli* 20—25mm. longi. *Perigonium* coccineum, 35mm. longum; segmenta exteriora per 14mm. libera. *Antherae* 2—3mm. exsertae. *Stigma* demum 4mm. exserta. *Ovarium* 7mm. longum, 3mm. diam. [Plates III, IV.]

Hab. Kenya Colony: Rift Valley, near Lake Naivasha, 2 miles south of Lake Hotel, 6 miles south of Naivasha, approx. 0°48'S 36°25'E. alt. 6,100 ft., fl. 19 April 1952. Reynolds 6546! (type) in Nat. Herb. Pretoria, with type number in Herb. Kew, and Cor. Mus. Herb. Nairobi; Gilgil

Escarpment, 3 miles north-west of Gilgil, fl. 19 April 1952, Reynolds 6552! in Nat. Herb. Pretoria, Herb. Kew, and Cor. Mus. Herb. Nairobi; near top of Kedong Escarpment, 24 miles north-west of Nairobi, fl. 19 April 1952, Reynolds 6544! in Nat. Herb. Pretoria, and Herb. Kew.

A. kedongensis is named after that part of the Kenya portion of the Great Rift which appears to be the specific centre. It occurs in dense bush from near the top to near the foot of the Kedong Escarpment, 24—28 miles north-west of Nairobi, also on Mt. Longonot nearby, where Mr. P. R. O. Bally has collected it. At the type locality, which is 2 miles south of the Lake Hotel (6 miles south of Naivasha), near the south-eastern shore of Lake Naivasha, *A. kedongensis* occurs in flatter country in dense masses, sometimes forming untidy impenetrable thickets up to 12 feet high and several yards across. On dry slopes of volcanic rock near the southern extremity of Lake Naivasha, it is also found in large numbers growing socially with masses of *A. secundiflora* Engler. Although both species were seen in flower (April) no trace of hybrids was found.

A. kedongensis also grows in large numbers on rocky slopes of the Gilgil Escarpment, overlooking Lake Elmenteita, 2—3 miles north-west of Gilgil, and was also observed 10 miles south of Nakuru. During the last war Major A. G. McLoughlin sent plants from the Gilgil Escarpment, with photographs, to the Division of Botany, Pretoria.

Characters which distinguish *A. kedongensis* from its nearest allies, include slender spindly stems up to 4 met. long, and narrow leaves up to 30cm. long, but not exceeding $3\frac{1}{2}$ cm. broad at base, the leaves being unspotted and having small marginal teeth only 2—3mm. long.

Until such time as the Aloes of Africa have been investigated, and sections and groupings revised, *A. kedongensis* can be placed in the section EUALOE, subsection *Prolongatae*.

A. rabaiensis Rendle, which I have seen from near Mombasa to near Nairobi, differs in having thicker stems, much larger greyer leaves, and smaller almost capitate racemes, and could never be confused.

A. nyeriensis Christian, which occurs near Nanyuki and southwards along the Nyeri road, has much larger leaves, and much thicker stems which are slenderer near base becoming thicker upwards.

A. pole-evansii Christian from near Kisumu has thicker stems, larger leaves, and different racemes.

A. dauwei Berger, which I have seen near Entebe in Uganda, is a totally different species with thicker stems about 1 met. or a little more long, and much larger different leaves.

Description. Plants succulent, fruticose, forming shrubs varying from

2 met. high to dense thickets 3—4 met. high and sometimes several metres across.

Stems slender, spindly, about 4cm. thick, up to 4 met. tall, mostly branched from the base, sometimes with few to many shoots produced at random, the terminal 30—60cm. of main stems subclaxly foliate, with the internodes 2—3cm. distant, the sheaths obscurely striate; the apical portion of stems usually with old dried leaves persistent for about 1 met., nude downwards.

Leaves dull greyish-green to dull yellowish-green, basally sheathing, 3.5cm. broad at base, 30cm. long, gradually narrowing from base to apex, varying from spreading to recurved; *upper surface* canaliculate, *lower surface* rounded; *both surfaces* unspotted except sometimes in young shoots, the spots disappearing with age; *margins* armed with pale deltoid teeth with reddish-brown apices, the teeth sometimes forward-uncinnate and averaging 2—3mm. long, 10mm. distant.

Inflorescence 50cm. tall, 2—4-branched from about the middle, the branches mostly arcuate-ascending.

Peduncle brown with a slight bloom, basally plano-convex and 12—15mm. diam., terete upwards, the lowest branch subtended at base by an ovate-cuspidate, thin, scarious, 5-nerved bract 6mm. long, 12mm. broad at base.

Racemes broadly cylindric-acuminate, the terminal 10—12cm. long, about 8cm. diam., laterals a little smaller.

Bracts ovate-acute, 5mm. long, 5mm. broad at base, thin, scarious, about 3-nerved.

Pedicels 20—25mm. long, the colour of the perianth.

Perianth scarlet, cylindric, slightly trigonous, averaging 35mm. long, shortly stipitate, obtusely tapering into the pedicel, 7mm. diam. over the ovary, thence slightly curved and very slightly constricted on the under-side only, the mouth wide open; *outer segments* free for 14mm. paler at their margins, 5-nerved, the apices subacute, spreading; *inner segments* themselves free but dorsally adnate to the outer for 20mm., broader than the outer and with more obtuse more spreading brownish apices.

Filaments pale-yellow, filiform-flattened, the 3 inner narrower and lengthening in advance of the 3 outer with their *anthers* in turn exerted 2—3mm.

Style lemon, filiform, with *stigma* at length exerted 4mm.

Ovary green, 7mm. long, 3mm. diam., finely 6-grooved.

Capsule 22mm. long, 9mm. diam., broadly 3-angled.

A. ngobitensis Reynolds. *Spec. nov.*, in Sect. EUALOE, subsect. *Prolongatae*.

Planta succulenta, fruticosa, ca. 2 met. alta et lata.

Folia griseo-viridia, 35cm. longa, 5cm. lata, sensim attenuata, patentia vel recurvula, dentibus marginibus-deltaideis 3—4mm. longis, 8—12mm. distantibus armata. *Inflorescentia* 80cm. alta, 3—5-ramosa. *Racemi* subdensi, 15cm. longi, 7cm. diam. *Bractee* ovato-acutae, scariosae, 5mm. longae, 4mm. latae, 5-nervatae. *Pedicelli* 20mm. longi. *Perigonium* laete aureo-coccineum 36mm. longum, basi 7mm. diam; *segmenta exteriora* per 15mm. libera. *Antherae* per 3—4mm. exsertae. *Stigma* demum 5mm. exserta. [Plate V.]

Hab. Kenya Colony: Bushy slopes near Ngobit Bridge, 31 miles north-west of Nyeri on direct road to Mutara Police Post and Thomson's Falls, approx. 0°5'S 36°50'E. Fl. 22 April 1952, Reynolds 6579! (type) in Nat. Herb. Pretoria, with type number in Herb. Kew and Cor. Mus. Herb. Nairobi; 18 miles east of Thomson's Falls, fl. 22 April 1952, Reynolds 6559! in Nat. Herb. Pretoria, and Herb. Kew.

A. ngobitensis is named after the locality which appears to be its specific centre, namely, the valley of the Ngobit River, near Ngobit Bridge, 31 miles north-west of Nyeri, on the direct road from Nyeri to Mutara Police Post and Thomson's Falls, Kenya Colony. For a mile or more each side of Ngobit Bridge, large numbers of plants were found on bushy slopes in stony ground, forming shrubs about 6 feet high and broad, and mostly branched from the base with the main stems slightly divergent.

The most striking feature of *A. ngobitensis*, and one which immediately distinguishes it from all other shrubby Aloes known to me in Kenya and elsewhere in Africa, is the remarkable colour of the flowers which are a striking and most attractive bright sheeny orange-scarlet, the perianth being usually minutely white-spotted. It is also distinguished by having rather slender peduncles and branches, and subdensely flowered somewhat narrow racemes about 15cm. long. Stems branch at ground level, very slightly increasing in thickness upwards, which is also a character of *A. nyeriensis* found further east near Nanyuki and for some miles along the road southwards towards Nyeri, but the latter is a larger plant with thicker stems, larger leaves, and different racemes with dull scarlet flowers, and could hardly be confused.

Near Ngobit Bridge, numbers of *A. ngobitensis* were seen growing socially with large numbers of *A. secundiflora*. Both were flowering in April, but no crosses were noticed.

At the Suguoi River 14 miles northwest of Ngobit Bridge (which locality is 32 miles west of Nanyuki and 28 miles east of Thomson's Falls), *A. ngobitensis* was found among similar Aloe shrubs having slightly shorter denser racemes of dull scarlet flowers. Whether the latter are

colour forms of *A. ngobitensis*, or more probably forms of *A. nyeriensis* extending westwards from Nanyuki, requires further investigation.

At a point 18 miles east of Thomson's Falls, an occasional plant of *A. ngobitensis* with its bright sheeny orange-scarlet flowers stood out vividly among numbers of Aloe shrubs with dull scarlet flowers. On account of its most attractive colour of flowers, *A. ngobitensis* is a plant well worth cultivating.

Description. Plants succulent, fruticose, forming shrubs about 2 met. high and broad.

Stems 2 met. tall, 4—5cm. diam., mostly branched from base, the terminal portion subclaxly foliate for 30—50cm., the old dried leaves persistent, with the lower half of stems nude.

Leaves 5cm. broad at base, gradually attenuate and 35cm. long, basally sheathing with the internodes 2—3cm. distant, the sheathing portion obscurely lineate; *upper surface* flat to slightly canaliculate; *lower surface* rounded; *both surfaces* grey-green, without lines or spots except sometimes in young shoots, the spots disappearing with age; *margins* armed with teeth the colour of the leaf at base, paler upwards and pale brown at apex, averaging 3—4mm. long, 8—12mm. distant, the interspaces rounded.

Inflorescence 80cm. high, rather compactly 3—5-branched from about the middle.

Peduncle flattened at base, terete upwards, with the branches slender.

Racemes cylindric-acuminate, the terminal 15cm. long, 7cm. diam., subdensely flowered.

Bracts ovate-acute, 5mm. long, 4mm. broad at base, thin, scarious, about 5-nerved.

Pedicels the lowest of terminal racemes 20mm. long.

Perianth bright sheeny orange-scarlet, greenish tipped, 36mm. long, cylindric slightly trigonous, basally obtusely tapering into the pedicel, 7mm. diam. over the ovary, thence slightly constricted on the underside, enlarging slightly to the mouth: *outer segments* free for 15mm., paler at the edges, with the apices subacute, slightly spreading; *inner segments* themselves free but dorsally adnate to the outer for two-thirds their length, broader than the outer, and with more obtuse more spreading apices.

Filaments pale lemon, filiform-flattened, the 3-inner narrower and lengthening in advance of the 3 outer, with their *anthers* in turn exserted 3—4mm.

Style pale yellow, filiform, with *stigma* at length exserted 5mm.

Ovary pale olive-green, 5mm. long, 3mm. diam., finely 6-grooved.

Aloe graminicola Reynolds. *Spec. nov.* in ser. *Saponariae*, *A. lateritia* Engler affinis, sed floribus gracilioribus differt.

Planta succulenta, acaulis, dichotome divisa. *Folia* ca. 16, dense rosulata, lanceolata, patentia, usque ad 27cm. longa, basi 7cm. lata; *supra* obscure viridia, planiuscula, maculis oblongis lateraliter saepe confluentibus transverse seriatis picta; *subtus* convexa, maculis transverse picta, ad margines sinuato-dentata, dentibus deltoideis 4—5mm. longis et 10—15mm. inter se distantibus. *Inflorescentia* 1 met. alta, 3—5-ramosa. *Racemi* dense capitati, 5cm. longi, 8cm. diam. *Bracteae* anguste deltoideo-acuminatae, scariosae, 12mm. longae, 2mm. latae, 3—5-nervatae. *Pedicelli* 20mm. longi. *Perigonium* coccineum (interdum luteum), 33mm. longum; tubus circa ovarium globoso-inflatus et 8mm. diam., deinde constrictus et 5mm. diam., hinc decurvatus et paullum ampliatus; *segmenta exteriora* per 8mm. libera. *Antherae* 1—2mm. exsertae. *Stigma* demum 2—3mm. exserta. *Ovarium* 6mm. longum, 2½mm. diam. [Plates VI, VII.]

Hab. Kenya Colony: In open grassland 8 miles south of Nanyuki (116 miles north of Nairobi), approx. 0°5'S 37°4'E, alt. 6,200 ft., fl. 22 April 1952, Reynolds 6576! (type) in Nat. Herb. Pretoria, with type number in Herb. Kew, and Cor. Mus. Herb. Nairobi; ½ mile north of Nanyuki, alt. 6,300 ft., fl. 22 April 1952, Reynolds 6574! in Nat. Herb. and Herb. Kew; flat grasslands at Gilgil (74 miles north-west of Nairobi), 0°30'S 36°18'E, alt. 6,580 ft., fl. 19 April 1952, Reynolds 6551! in Nat. Herb. and Herb. Kew; flat grasslands near Ol Joro Orok, 33 miles north of Gilgil, 0°4'S 36°22'E, alt. 7,780 ft., fl. 20 April 1952, Reynolds 6554! in Nat. Herb. Pretoria, and Herb. Kew; Naro Moru (14 miles south of Nanyuki), Aug. 1932, E. R. Napier 2187! in E.A. Herb. and Cor. Mus. Herb. Nairobi.

Our new species is allied to *A. lateritia* Engler—which I have studied at the type locality, Rombo, on south-eastern foothills of Kilimanjaro—but differs from it, *inter alia*, in having smaller, denser, capitate racemes of much narrower more curved flowers. In *A. graminicola* the basal swelling of the perianth is also much smaller and the two species could hardly be confused.

Plants were found near Timau (14 miles north of Nanyuki), at Nanyuki, and in large numbers 8 miles south of Nanyuki (type locality) in open grasslands, while yellow-flowered forms were noticed further south near Naro Moru. Considerable quantities occur for 30 miles north-westwards from Nyeri, near Thomson's Falls, and from there to Ol Joro Orok. It was also seen in the Rift Valley near Nakuru, Gilgil and Nainvasha, flowering in April.

In all localities visited, *A. graminicola* was found growing in grasslands, which suggested the specific epithet. I did not see this species on rocks, or in dry, arid thorn country. Altitudes from 6,000 ft. to 7,800 ft. in the Kenya Highlands, seem to suit it.

Between Njoro and Elburgon, some 20 miles west of Nakuru on the road to Mau Summit, it seems that *A. graminicola* grades through intermediates into *A. lateritia*. Beyond the Mau Range, especially for 12 miles before reaching Eldoret, only robust forms of *A. lateritia* were noticed. Beyond Eldoret, near Hoey's Bridge, Kitale and to the north, there appear to be at least two more distinctive undescribed species in the Series *Saponariae* which require further investigation.

Description. Plant succulent, solitary, or forming small groups by division, acaulescent.

Leaves about 16, densely rosulate, erectly spreading, lanceolate-attenuate, up to 27cm. long, 7cm. broad at base, the apex dried and twisted; *upper surface* flat or slightly canaliculate, dull green with numerous dull white "H"-shaped spots, the spots irregularly scattered or sometimes more or less arranged in interrupted undulating transverse bands; *lower surface* paler green, with fewer spots, the spots irregularly scattered or more or less arranged in interrupted undulating transverse bands; *margins* sinuate-dentate, with horny edge, armed with pale brown, pungent, deltoid teeth 4—5mm. long, 10—15mm. distant, the interspaces rounded and the colour of the leaf. (Sap dries yellow.)

Inflorescence a branched panicle up to 1 met. high.

Peduncle brown with a grey powdery bloom, flattened and 2cm. diam. low down, terete upwards, 3—5-branched from the middle or higher, the lowest branch subtended at base by a rather fleshy many-nerved bract up to 3cm. long, 12mm. broad at base.

Racemes capitate, densely flowered, the terminal averaging 5cm. long, 8cm. diam., the lateral a little smaller.

Bracts narrowly deltoid-acuminate, thin, scarious, 12mm. long, 2mm. broad at base, 3—5-nerved.

Pedicels averaging 20mm. long.

Perianth scarlet to orange-scarlet (sometimes yellow), paler to yellowish at mouth, averaging 33mm. long, slender, with basal swelling 8mm. diam., constricted above the ovary to 5mm. diam., thence decurved, laterally compressed and enlarging towards the throat, *outer segments* free for 8mm., paler at the margins, the apices subacute, slightly spreading; *inner segments* broader than the outer, with broader thin white borders and more obtuse spreading apices.

Filaments almost white, filiform-flattened, the 3 inner narrower and lengthening in advance of the 3 outer, with their *anthers* in turn exerted 1—2mm.

Style pale-yellow, filiform, with the *stigma* at length exerted 2—3mm.

Ovary pale green, 6mm. long, $2\frac{1}{2}$ mm. diam., finely 6-grooved.

Capsule 32mm. long, 16mm. diam. at the middle.



FIG. 1.



FIG. 2.

PLATE I. *Aloe ballji* Reynolds.

FIG. 1: Plant 20 ft., fl. 31 March 1952. 2½ miles west of Mwatate, 20 miles west of Voi, Kenya Colony. (Photo: G. W. Reynolds).

FIG. 2: Plants in fruit on 27th September 1944, near Oldonyo Sambu, north of Mt. Meru, Tanganyika Territory. (Photo: P. R. O. Bally.)



FIG. 1.



FIG. 2.

PLATE II: *A. ballyi* Reynolds.

FIG. 1: Flowers 1/1 from bud to post-pollination stage, with one flower partly laid bare. (Photo: G. W. Reynolds.)

FIG. 2: Inflorescence, approx. $\frac{1}{10}$, with sunbird. (Photo: P. R. O. Bally.)

Both from a plant near Mwatate, 20 miles west of Voi, Kenya Colony. Fl. 31 March 1952.



FIG. 1.

PLATE III: *Aloe kedongensis* Reynolds.

FIG. 1: Thickets 12 ft. high, fl. 19 April 1952, 2 miles south of Lake Hotel, 6 miles south of Nativasha, Rift Valley, Kenya Colony.

FIG. 2: Flowers 1/1 from bud to post-pollination stage.

FIG. 2.





FIG. 1.

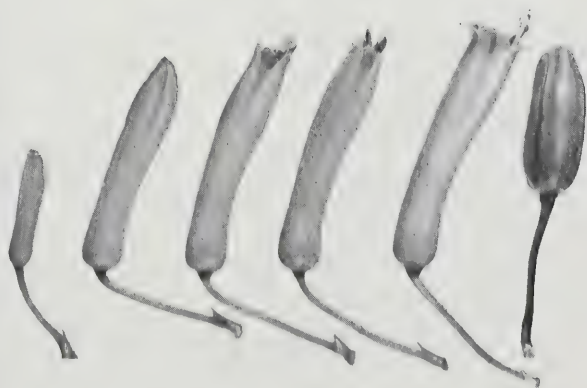


FIG. 2.

FIG. 1: Plant 8 ft. high, fl. 19 April 1952, 3 miles north-west of Gilgil, Kenya Colony.

FIG. 2: Flowers 1-4 from bud to post-pollination stage.



FIG. 1.



FIG. 2.

FIG. 1: Plant 8 ft. high, near Ngobit Bridge, 31 miles north-west of Nyeri, Kenya Colony, fl. 22 April 1952.

FIG. 2: Flowers 1/1 from bud to post-pollination stage.



FIG. 1.

PLATE VI: *Aloe grammicola* Reynolds.



FIG. 2.

FIG. 1: Plants fl. 22 April 1952, 8 miles south of Nanyuki, Kenya Colony.
FIG. 2: Flowers 1/1 from bud to post-pollination stage.



FIG. 1.



FIG. 2.

FIG. 1: Plants fl. 19 April 1952, at Gilgil, Rift Valley, Kenya Colony.

FIG. 2: Flowers 1/1 from bud to post-pollination stage.